

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* NANETTE C. JENSEN,  
DOUGLAS G. KEITHLEY, VIRGINIA K. CAPPS,  
AND DAVID G. BOHAN

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Appeal 2007-1071  
Application 09/855,208  
Technology Center 2800

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Decided: May 31, 2007

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Before JAMES D. THOMAS, KENNETH W. HAIRSTON,  
and MAHSHID D. SAADAT, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1 to 20. We have jurisdiction under 35 U.S.C. § 6(b).

Appellants have invented a method and system for determining the light output of a light emitting diode (LED). The method and system obtain a difference between a first measure of light output from the LED and a second measure of light output from the LED, and then compare this difference to a predefined difference threshold (Specification 2 and 3).

Claim 1 is representative of the claims on appeal, and it reads as follows:

1. A method for determining a light output of a light emitting diode (LED) in a scanner, comprising:
  - applying a first current to the LED to generate the light output of the LED during a first time period;
  - obtaining a first measure of the light output of the LED during the first time period with a number of sensors in a sensor array;
  - applying an altered current to the LED to generate the light output of the LED during a second time period;
  - obtaining a second measure of the light output of the LED during the second time period with the sensors in the sensor array; and
  - detecting a saturation of the sensors in the sensor array by comparing a difference between the first measure of the light output and the second measure of the light output with a predefined difference threshold.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Gamgee	US 4,945,225	Jul. 31, 1990
Uebbing	US 4,982,203	Jan. 1, 1991

Lisson	US 5,902,994	May 11, 1999
Shiota	US 6,642,492 B1	Nov. 4, 2003 (filed Jul. 14, 1999)

The Examiner rejected claims 1 to 4, 7 to 10, 13 to 16, 19 and 20 under 35 U.S.C. § 103(a) based upon the teachings of Lisson, Gamgee and Shiota.

The Examiner rejected claims 5, 6, 11, 12, 17 and 18 under 35 U.S.C. § 103(a) based upon the teachings of Lisson, Gamgee, Shiota and Uebbing.

Appellants contend that the motivation for combining the applied references lacks merit in view of the teachings of the references, and that the combined teachings of the references fail to teach or suggest “the step of ‘detecting a saturation of the sensors in the sensor array by comparing a difference between the first measure of the light output and the second measure of the light output with a predefined difference threshold’” (Br. 15).

We reverse.

### ISSUE

Does the applied prior art teach or would have suggested to the skilled artisan “detecting a saturation of the sensors in the sensor array by comparing a difference between the first measure of the light output and the second measure of the light output with a predefined difference threshold?”

### FINDINGS OF FACT

As indicated *supra*, Appellants describe a method and system for determining a difference between two different measures of light output from a LED. The determined difference value is then compared with a

predefined difference threshold to thereby detect saturation of sensors in a sensor array.

Lisson describes an apparatus for calibrating a linear image sensor 14 that includes a fluorescent light source 10 (Figure 1; col. 1, l. 61 to col. 2, l. 2). The control electronics 22 compares the magnitude of the sensed light output from the light source to the desired calibration level, and adjusts light output to the desired level (col. 3, ll. 37 to 40).

Gamgee describes an apparatus 22 for discriminating a radiant information signal from a background signal in an input signal 10 (Figure 1; Abstract). Gamgee seeks to avoid saturation of the output sensing signal 21 from the sensor 20 that senses the input signal 10 (col. 2, ll. 5 to 33).

Shiota, like Lisson, has a comparator 420 that compares the voltage magnitude of the sensed light output from a LED light source 110 to a reference voltage from reference voltage source 430, and adjusts light output from the LED to the desired level (Figure 2; col. 4, l. 58 to col. 5, l. 19).

Uebbing describes a method and apparatus for correcting for degradation in light output due to aging of a LED light source (Abstract; col. 2, ll. 14 to 27).

#### PRINCIPLE OF LAW

The Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The Examiner's articulated reasoning in the rejection must possess a rational underpinning to support the legal conclusion of

obviousness. *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

### ANALYSIS

As indicated *supra*, Lisson and Shiota both compare a measured light output with a reference value to arrive at a light adjustment signal. A “difference” between two measured light outputs is not used in either of the references. Thus, we agree with the Appellants’ argument that the applied references neither teach nor would have suggested to one of ordinary skill in the art “‘comparing a difference between the first measure of the light output and the second measure of the light output with a predefined difference threshold.’”

### CONCLUSION OF LAW

Obviousness has not been established by the Examiner because the applied references neither teach nor would have suggested to the skilled artisan all of the method steps and system limitations.

### DECISION

The obviousness rejections of claims 1 to 20 are reversed.

### REVERSED

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